

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
23 May 2002 (23.05.2002)

PCT

(10) International Publication Number
WO 02/041154 A3

(51) International Patent Classification⁷: G06F 3/06

(21) International Application Number: PCT/US01/43945

(22) International Filing Date:
16 November 2001 (16.11.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/249,530 17 November 2000 (17.11.2000) US

(71) Applicant (for all designated States except US): CY-
PRESS SEMICONDUCTOR CORP. [US/US]; 3939
North First Street, San Jose, CA 95134 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): HARRIS, David,

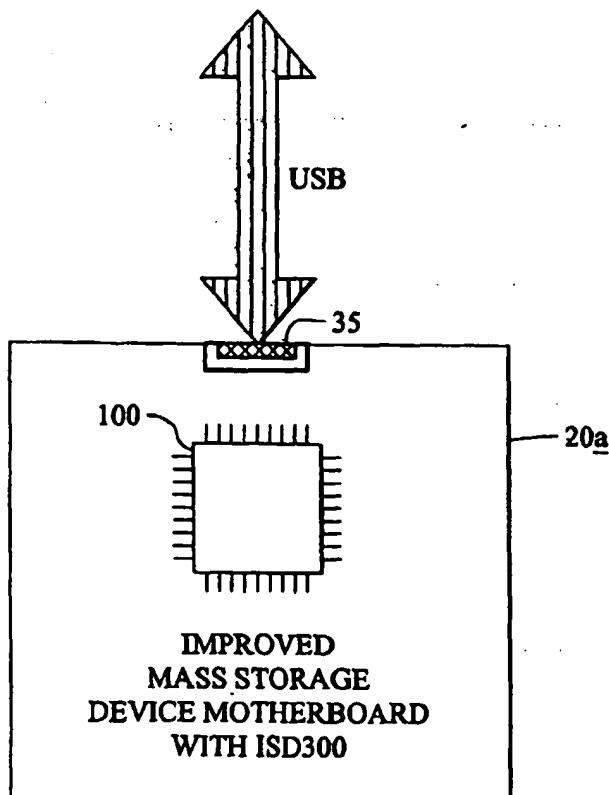
H. [US/US]; 12975 W. Goldenbrook Ct., Boise, ID 83713
(US). CLARK, Gordon, R. [US/US]; 1454 Beagle, Merid-
ian, ID 83642 (US). HOLLAND, Stephen, D. [US/US];
5003 Hopi Circle, Boise, ID 83709 (US).

(74) Agent: ROGERS, Craig, R.; Marger Johnson & McCol-
lom, P.C., 1030 S.W. Morrison Street, Portland, OR 97205
(US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,
SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: UNIVERSAL SERIAL BUS (USB) INTERFACE FOR MASS STORAGE DEVICE



(57) Abstract: A mass storage device motherboard or secondary board includes a bridging circuit. The bridging circuit converts singals from the mass stor-
age device into USB signals. The bridging circuit
can be provided by a chip that converts ATA/ATAPI
signals into USB signals.

WO 02/041154 A3



(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
14 August 2003

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/43945

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G06F3/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 890 905 A (SHUTTLE TECHNOLOGY LIMITED) 13 January 1999 (1999-01-13) abstract column 1, line 43 -column 1, line 52 column 2, line 47 -column 2, line 56 column 3, line 20 -column 3, line 30 column 5, line 14 -column 6, line 43 column 7, line 9 -column 8, line 11 -----	1-20
P,X	US 6 199 122 B1 (KOBAYASHI TOSHIYA) 6 March 2001 (2001-03-06) column 2, line 38 -column 3, line 62 abstract figure 1	1,4,5, 9-12,18, 20
X	& JP 11 053485 A (TOKYO ELECTRON LTD) 26 February 1999 (1999-02-26) ----- -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

27 June 2003

Date of mailing of the international search report

04/07/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Abbing, R

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/43945

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	EP 1 111 498 A (MITSUMI ELECTRIC CO) 27 June 2001 (2001-06-27) the whole document	1-20
A	EP 0 987 876 A (SMARTDISK CORP) 22 March 2000 (2000-03-22) abstract column 4, line 25 -column 6, line 10 -----	1,4,5, 9-12,18, 20

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/43945

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0890905	A	13-01-1999	EP 0890905 A2 JP 11119878 A	13-01-1999 30-04-1999
US 6199122	B1	06-03-2001	JP 11053485 A TW 457428 B	26-02-1999 01-10-2001
EP 1111498	A	27-06-2001	JP 2001160026 A EP 1111498 A2 US 2001003197 A1	12-06-2001 27-06-2001 07-06-2001
EP 0987876	A	22-03-2000	AU 3915899 A EP 0987876 A2 JP 2000132958 A TW 448358 B	16-03-2000 22-03-2000 12-05-2000 01-08-2001